

A SUSTAINABLE FUTURE TOGETHER

PAN PACTM
FOREST PRODUCTS LTD

NOVEMBER 2022





ABOUT PAN PAC

Pan Pac Forest Products is the only fully integrated forest company in New Zealand. For 50 years, we have been growing, processing and delivering quality radiata products to international markets. We focus on producing quality, value-added products and exporting them globally. Our products are exported to over 30 countries around the world, as well as domestically.

We are the largest forestry grower in Hawke's Bay and over 80% of our trees are planted on iwi-owned land. After growing our trees for 30 years, we process them into logs, lumber, pulp and wood chips. We have sawmills in Whirinaki and Otago, making us the largest producer of appearance grade lumber in New Zealand.

We build strong relationships with our customers and the stakeholders in the communities in which we operate, including iwi, neighbours, schools, charitable organisations and government.





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ADDING VALUE TO OUR NATURAL RESOURCES

WELCOME TO THE FIRST SUSTAINABILITY REPORT FOR PAN PAC.

In 2020, our Executive Team began working on our strategic vision for 2030. The first stage involved clarifying our purpose as a business, or Our Why. We are proud to be a part of New Zealand's bio-based economy, providing sustainable forest products to fulfil society's needs.

Our 2030 strategic pillars include objectives to achieve market leadership, maximise competitiveness, build organisational capability and secure the future for our business. Underpinning our pillars are our foundations, which are sustainability, defined as the proactive reduction of climate and production impact; and health and safety, in which care for people comes before everything else.

We engaged staff from across the business to lead workstreams on the key areas for our strategic Get Fit phase (2020-2023): safety, sustainability, technology and culture. Each of these areas contributes to sustainability overall through ensuring Pan Pac's ongoing viability and are incorporated in this Sustainability Report.

The sustainability workstream conducted a materiality assessment asking stakeholders the areas that Pan Pac should prioritise as a business. We aligned the priorities identified by our stakeholders to 11 of the 17 Sustainable Development Goals (SDGs) adopted by the United Nations. These have been grouped under people, planet, prosperity and partnerships, with initiatives and action plans for short-term and long-term goals.

The materiality assessment identified health and safety management as the number one priority for our business. The nature of our industry means that there is an element of risk in much of the work we do. While the health and safety of our workers has always been a priority for our business, it was encouraging to see this was also a key priority for

our stakeholders. Significant work is underway in this area with greater focus on managing critical risks and wellbeing. One example is the management of COVID-19 controls at our sites. In March 2022, we implemented compulsory COVID-19 testing at Whirinaki and Otago. The programme required consultation with staff and contractors before implementation, investment in PCR testing equipment and additional workers to run the programme. We achieved very high compliance from workers and, as a consequence, helped to reduce transmission of COVID-19 onsite and within our communities.

Pan Pac's sustainability goals are also aligned with our shareholder Oji Group's Environmental Action Program 2030 and Environmental Vision 2050. As an integrated forest products company, it is vital that we maintain a reliable wood supply to ensure ongoing prosperity. In 2022, we strategically purchased three parcels of farmland around Hawke's Bay to plant production forests. Our forests differ from plantation forests in that our trees are not simply planted as carbon sinks. We harvest and use every part of the trees in the production of pulp and lumber. All our conversions to production forestry enhance local communities and produce better economic and environmental outcomes.

I look forward to reporting on our progress in future reports and through our website.



Tony Clifford, Managing Director



OJI GROUP: HARMONY WITH NATURE AND SOCIETY

Pan Pac is owned by Oji Group, a leader in the pulp and paper industry in Japan.

Since it was founded in 1873, Oji Group has grown into a global paper, pulp, packaging and forestry enterprise, with operations throughout Asia, North and South America, Europe and Oceania.

Its foundation is sustainable resource circulation based on forest resources. Oji Group's management philosophy is to do business in harmony with nature and society. This means its business activities should contribute to a sustainable society. For example, vast areas of company-owned forest in and outside Japan are used for multiple purposes and the Group is constantly seeking measures to reduce the environmental burden at its manufacturing sites.

In September 2020, Oji Group established its Environmental Vision 2050.

ENVIRONMENTAL VISION 2050

NET-ZERO CARBON

Reduce greenhouse gas (GHG) emissions to virtually zero

- Implement “Sustainable Forest Management” through the promotion of forest plantation overseas and forest conservation and achieve CO₂ absorption and fixation that outweighs GHG emissions from our production activities
- Reduce GHG emissions from our production activities by improving the efficiency of energy consumption and increasing the use of renewable energy
- Reduce GHG emissions from the value chain by collaborating with our stakeholders

Aim for a recycling-oriented society

- Promote “Paper Recycling” through increasing recovered paper usage
- Promote “Water Recycling” in manufacturing processes

HARMONY WITH NATURE AND SOCIETY

Aim for a society in harmony with nature by seeking to conserve biodiversity and reduce our impact on the environment

- Guarantee ecosystem functioning for the future by creating abundant forests and ensuring that rare plants and animals are protected and nurtured
- Promote the development and production of biodegradable and biomass materials to help maintain ecosystems
- Promote the purification of wastewater and exhaust gas and the effective use of waste

ENVIRONMENTAL ACTION PROGRAM 2030

In September 2020, Oji Group established the Environment Action Program 2030 as a milestone to achieve the Environmental Vision 2050. Pan Pac’s Sustainability goals are aligned with Oji Group’s 2030 program and 2050 vision.

1. Response to Climate Change

- Greenhouse gas emissions. At least 70% reduction in GHG by FY2030 compared to FY2018. Increased use of renewable energy, energy efficiency, and investment in forest preservation and plantation.

Pan Pac: Continue to expand forest purchases and partnerships, invest in energy efficiency and conversion projects (i.e., Whirinaki pulp mill heat recovery and removal of large electrical demand equipment 41GWhr/yr saving).

- Reduction of GHG emissions through collaboration with suppliers and other business partners.
Pan Pac: Developing technology-driven options and studies such as direct renewable power purchasing and future options for green vehicles (light and heavy).

2. Creation of Abundant Forests and Resource Recycling

- Creation of abundant forests through sustainable forest management - 100% forest certification acquisition rate and expansion of certified products.
Pan Pac: Continually develop and maintain sustainable forest management practices alongside our iwi and forest owner partners. Included is the development of native forest areas and reserves.

- Resource recycling with improvement in effective waste utilisation rate - Japan: At least 99%, Overseas: At least 95%. Increased use of wastepaper. Reduction of water consumption intensity. Expansion of water treatment infrastructure and technology services.
Pan Pac: Committed to reducing waste and technology to minimise environmental impacts. Ten-year review for a more beneficial Wastewater Treatment Plant process due to commence in 2023.

3. Consideration of Ecosystem

- Goal of zero environmental impact. Purification of wastewater and exhaust gas.
Pan Pac: Committed through continually developing solutions onsite.

- Biodiversity conservation through promotion of forestry management that considers the ecosystem and the protection and nurture of rare plants and animals. Promotion of the research and development of biodegradable and biomass materials aimed at ecosystem preservation.
Pan Pac: Developing native reserves such as Pākuratahi Bush, through the Reserve Management Plan.

4. Development of Trusting Relationships with Our Stakeholders

- Responsible raw material procurement and manufacturing.
Pan Pac: Code of Conduct for all suppliers that aligns sustainability goals for services and materials into contracts.
- Expansion of products which contribute to a decarbonised society.
Pan Pac: Continue to expand business in wood products globally.
- Zero environment accidents and zero product liability accidents.
Pan Pac: Our targets are also aligned with the SDGs that address responsible consumption and production, life on land, life below water and good health and wellbeing.

PAN PAC STATISTICS



3,250

WORKERS RECEIVE
EMPLOYMENT
THROUGH PAN PAC
(DIRECTLY, INDIRECTLY
OR THROUGH INDUCED
ECONOMIC IMPACT)

2
SITES

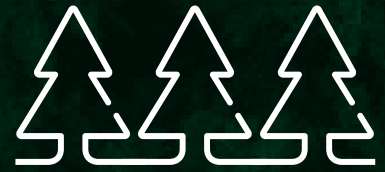


\$450 MILLION
WORTH OF FOREST
PRODUCTS CONVERTED
ANNUALLY ONSHORE
FROM **\$150 MILLION**
WORTH OF LOGS

6% OF GROSS
DOMESTIC
PRODUCT IN
HAWKE'S BAY

525,000M³

OF GREEN SAWN PRODUCT
PER ANNUM



36,000 HA
OF PAN PAC
MANAGED AND
PARTNERED
FORESTS



UP TO **450,000** TONNES
OF WOOD CHIP A YEAR
FROM WHOLE LOGS

EXPORT
TO OVER

30

COUNTRIES

7 DAYS
A WEEK,
365 DAYS
A YEAR

1/3

OF VOLUME OF
NAPIER PORT

750 ADT (AIR DRIED
TONNES)

OF BLEACHED CHEMI THERMO
MECHANICAL PULP (BCTMP)

EVERY DAY

50
YEARS &
GROWING

50 YEARS
OPERATING



OUR PURPOSE

Providing sustainable, tailored forest products to fulfil society's needs. We refer to this as Our Why.

Our Purpose is the centre of our business. Supporting our purpose are Safety and Sustainability. These are the foundations that are a part of everything we do.

WHY WE MATTER TO SOCIETY

- Our business is renewables, we are part of New Zealand's bio-based economy.
- Our products displace those made from oil-based materials.
- We support over 800 people and families, regions and communities.

WHY WE MATTER TO PEOPLE

- We work with global scale plants, supporting our people to grow and succeed.
- We enable a high-quality regional lifestyle.
- We provide secure employment that allows people to plan their lives.

WHY WE MATTER TO CUSTOMERS

- We have a deep capability to tailor wood-based products.
- We have a trusted, reliable supply chain.
- Our lumber grades are unique to New Zealand. Only we can do what we do.

WHY WE MATTER TO SHAREHOLDERS

- We enable increased overseas investment with a reliable return every year.
- Oji is proud of our place in its portfolio of companies.
- We are one of Oji's first overseas Joint Ventures.

SUSTAINABILITY AT PAN PAC

DEVELOPING OUR SUSTAINABILITY FRAMEWORK AND STRATEGY

In 2020, Pan Pac began work on developing a sustainability framework for the business. This work dovetailed with the commencement of strategic planning by senior leadership towards 2030. It also aligned with Oji's Environmental Action Program 2030.

In developing our sustainability framework, we conducted a gap analysis of our existing procedures, policies and projects to quantify current sustainability performance. This process highlighted the sustainable initiatives that were already underway in some areas of our business that could be replicated across our sites. It also identified areas and opportunities for improvement, which were categorised into short-term and long-term actions.

We then conducted a materiality assessment to identify what mattered most to our stakeholders, including: staff, contractors, customers, suppliers, iwi, community representatives, local government and our shareholder Oji Holdings. This feedback enabled Pan Pac to identify and prioritise initiatives in line with stakeholder expectations.

THERE ARE 16 FOCUS AREAS IN TOTAL:

1 HEALTH & SAFETY MANAGEMENT	2 WATER POLLUTION	3 SUSTAINABLE FOREST MANAGEMENT	4 POSITIVE ORGANISATIONAL CULTURE & LEADERSHIP
5 WASTE MANAGEMENT	6 EFFECTIVE RESOURCE UTILISATION	7 EMPLOYEE WELLBEING	8 WATER CONSERVATION PRACTICES
9 SOIL MANAGEMENT	10 TECHNOLOGY & INNOVATION	11 BIODIVERSITY MANAGEMENT & PROTECTION	12 REDUCING FOSSIL FUEL ENERGY CONSUMPTION
13 WORK/LIFE BALANCE FOR OUR EMPLOYEES	14 CONTRIBUTION TO THE LOCAL ECONOMY	15 REDUCING GREENHOUSE GAS EMISSIONS	16 PROTECTING ASSETS & SUPPLY CHAIN



PEOPLE, PLANET, PROSPERITY, PARTNERSHIPS

The key priorities identified in our gap analysis and materiality assessment formed the basis of our sustainability framework. These were then aligned with targets that sit under the SDGs as well as Oji's Environmental Action Program 2030.

We categorised the priorities into four themes: People, Planet, Prosperity and Partnerships. These themes also align with the four Wellbeings (social, economic, environmental and cultural) that local government is responsible for under the Local Government (Community Well-being) Amendment Act.

**PEOPLE/SOCIAL
MARAAKITANGA**



- Keeping all people involved with our operations safe from harm is a primary objective.
- Providing livelihoods for many hundreds of direct employees and contractors.
- Implementing a Code of Conduct that is based on the values of honesty, integrity, fairness and helpfulness.
- Providing high quality employment opportunities of the sort that are relatively uncommon in a provincial economy.
- Providing opportunities for the community to participate in recreational and competitive mountain biking.

**PROSPERITY/ECONOMIC
OHANGA ORA**



- Directly providing many employment opportunities for local people.
- Achieving high labour productivity through investment in energy intensive and modern capital production equipment.
- Adding value to the logs from our forests by processing them for timber and pulp, rather than sending them straight to the port for export.
- Generating large tax revenues to fund government spending.
- Earning export revenues that help New Zealand afford the imports the country needs.

**PLANET/ENVIRONMENT
KAITIAKITANGA**



- Operating an advanced wastewater treatment system.
- Processing domestic waste onsite.
- Treating stormwater onsite.
- Using forest products only from responsibly managed sources.
- Burning solid waste onsite to dry lumber and pulp.
- Avoiding the use of fossil fuels in drying processes.
- Minimising GHG by avoiding the combustion of natural gas.
- Active GHG monitoring and management.
- Working with a range of government and non-government organisations that have a role in conservation and environmental management.
- Sustainable forest and native reserve management.

**PARTNERSHIPS/CULTURAL
RANGAPU**



- Consulting with our neighbours through quarterly meetings and annual residents' BBQ.
- Actively participating in stakeholder forums.
- Increased iwi involvement in monitoring of resource consents and environmental performance.
- Pan Pac Environmental Trust supporting tangata whenua groups promoting kaitiakitanga values.
- Sponsorship of ECOED, local kiwi conservation trust.
- Sponsor of Hawke's Bay Helicopter Trust.
- Supporter of Hawke's Bay Mountain Bike Club.

GLOBAL AND LOCAL GOALS

ABOUT THE SUSTAINABLE DEVELOPMENT GOALS

At the United Nations summit meeting in September 2015, world leaders adopted 17 global goals (and 169 targets) as a set of universal goals that aim to address the urgent environmental, political and economic challenges facing our world. These are known as the Sustainable Development Goals (SDGs). More information on the SDGs can be found here: www.un.org/sustainabledevelopment

SUSTAINABLE DEVELOPMENT GOALS

OUR SDGS

We aligned our sustainability strategy to 11 of the SDGs, so that we can contribute, and measure our contributions, towards mitigating and adapting to climate change and protecting our environment and industry for the future.



SUSTAINABILITY PERFORMANCE



835

WORKERS
AT WHIRINAKI
(STAFF AND CONTRACTORS)

65+

NATIVE TREE
SPECIES
IDENTIFIED



11 STAFF

WORKING IN WELLBEING,
INCLUDING A FULLTIME
WELLBEING ADVISOR
AND 10 PEER SUPPORTERS
WHO VOLUNTEER THEIR
TIME TO HELP STAFF
WHEN NEEDED

102 FAUNA SIGHTINGS

SINCE WE DEVELOPED
SURVEY123 IN 2020.

THIS INCLUDES
FALCON/KĀREAREA,
FERNBIRD/MĀTĀTĀ,
KIWI AND
BARKING GECKO



37 WORKERS
EMPLOYED
AT MILBURN,
OTAGO

278 STAFF
ATTENDED ONSITE
MENTAL HEALTH
AWARENESS
SESSIONS IN 2021

269 SUBSIDISED
MELANOMA SKIN
CHECKS ONSITE
IN 2020/21

8 ELECTRIC
VEHICLES



15+
INDIGENOUS
FOREST TYPES
SPREAD
THROUGHOUT
THE FORESTS

\$1

IN EVERY \$16
GENERATED IN
HAWKE'S BAY

277 PREDATOR TRAPS
ACROSS THE FORESTS –
TO PROTECT FAUNA SPECIES



100%

OF DRYING ENERGY AT OUR OTAGO SITE IS **GENERATED BY BIO ENERGY**



76

PROTECTED ARCHAEOLOGICAL SITES



3.7M
DOLLARS TOWARDS LOCAL COMMUNITY INITIATIVES SINCE 1992

1.27

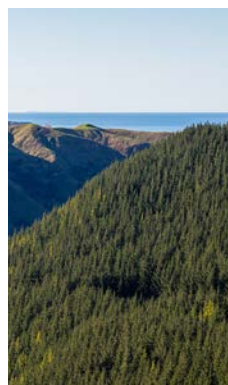
MILLION TONNES OF CO₂ EQUIVALENT REMOVED FROM THE ATMOSPHERE



50 TONNES (APPROXIMATELY) OF BIOMASS USED PER HOUR

12%

OF OUR ELECTRICITY NEEDS ARE MET BY OUR BIOFUEL BOILERS



80%

OF OUR TREES ARE PLANTED ON IWI-OWNED LAND



20 THOUSAND

NATIVES PLANTED IN 2021 / 22

30,500 TONNES

OF WASTE FROM THE HAWKE'S BAY COMMUNITY DIVERTED FROM LANDFILL AND CONVERTED TO ENERGY IN PAN PAC'S BIOMASS BOILER IN 2021

SUSTAINABILITY ACTION PLAN

Projects and initiatives that are currently underway or planned to take effect by 2023.



PEOPLE

FOCUS AREAS: HEALTH, SAFETY AND WELLBEING, VALUES, DIVERSITY AND INCLUSION

	SDGs	Progress
HEALTH, SAFETY AND WELLBEING		
<i>Care for people comes before everything else</i>		
Review of Safety Management System (SMS) to ensure it is risk focused, concise, legally compliant and fit for our organisation.	3	✓
Implement Learning Teams and Safety Differently (Safety II) concepts.	3	✓
Install GPS tracking units in log cartage truck fleet and forest utility vehicles. Traffic/pedestrian management at Whirinaki site. In Reach (for workers in remote locations). Workplace exposure testing.	3	→
Review Critical Risk and Controls Management.	3	✓
Establish the methodology and framework that will be used to identify, assess, and prioritise actions that will result in sustained injury reduction.	3	✓
Implement a Wellbeing Programme and calendar.	3	→
Implement precision forestry management through the mechanisation of harvesting, pruning and planting.	3	✓
Install GPS monitoring in vehicles to improve safety, resulting in a move away from compliance towards a greater engaged workforce.	3	✓
VALUES AND BEHAVIOURS		
<i>Invest in people engagement and performance for the future</i>		
Implement and embed a Code of Conduct (The Way We Work) that brings to life our values, behaviours and guiding principles.	3	→
DIVERSITY AND INCLUSION		
Address unconscious bias. Increase awareness and adoption of te reo in the workplace.	10	✓

KEY: ↑ In Planning ✓ Underway → Ongoing



LIVING OUR VALUES: THE WAY WE WORK

Our people are our most valued asset. Our skilled staff and contractors are fundamental to our operations and to achieving our strategic goals.

Our values underpin everything we do and how we do it. This is reflected in The Way We Work - our Code of Conduct. This document was delivered to staff in September 2020. It defines our values and expectations, helping our people put them into practice.

In 2021, we launched a programme of work highlighting and promoting key themes within The Way We Work. We also plan to engage with staff and contractors in a series of workshops that will give them input into an updated version of The Way We Work – ensuring it stays relevant and meaningful to our people.

As part of our strategy work, we established a workstream dedicated to enhancing company culture at Pan Pac. This workstream, made up of representatives from across the business, has been tasked with designing and implementing initiatives that aim to give staff and contractors a better experience at Pan Pac. We want our people to feel valued, as we value them.

Members of the workstream identified several elements they felt were fundamental to a good company culture. These include accountability, trust and respect, communication, collaboration, team building and recognition. Specific initiatives were then designed. For example, to encourage better collaboration and team building across the site, the workstream is setting up a site tours programme to encourage better understanding of the roles and work in other areas of our multi-faceted business. The awareness campaign and workshops about our Code of Conduct – The Way We Work are part of the same body of work.





CARE FOR OUR PEOPLE: HEALTH

COVID-19 response.

Pan Pac was classified as a non-essential service during the COVID-19 lockdowns of 2020 and 2021 and was required to cease operations. Throughout these closures, we paid all our workers 100% of their wages and salaries. On return to work, we implemented many controls to reduce the risk of COVID-19 transmission to all our workers, their families and our communities. From December, any staff who required time off from work to be vaccinated were provided with three hours of paid leave to do so.

One of the most critical controls was the introduction of onsite testing at Whirinaki and Milburn. The Executive team consulted across industry to identify the best approach to minimise infection and spread onsite. In addition, understanding the experience of businesses overseas was vital in ensuring we did our utmost to protect the health of our people and our business. We knew, based on the Australian experience, up to one-third of the workforce could be impacted during this period. While people can make their own decisions about whether to dine out, go to a bar or the gym, they have less control over whether or not to go to work. As an employer, we have a duty to do all we can to ensure a safe workplace for our people.

Our health and safety team conducted significant research into the likelihood of COVID-19 spreading throughout our workforce. On their recommendations, Pan Pac purchased sufficient PCR tests and Rapid Antigen Tests for all our workers in December 2021. In January 2022, we commenced our testing programme of unvaccinated workers with a voluntary option for vaccinated workers.

As the incidence of COVID-19 increased in our communities, we consulted with staff and contractors on making testing compulsory for all workers when in a Red or Orange traffic light setting. The overwhelming majority were in favour of compulsory testing, while those who questioned the need were listened to and their concerns considered.

In March 2022, we commenced compulsory testing of all workers and visitors. Four dedicated testers were employed, with all workers and visitors required to provide a PCR test every two days and a RAT if new to site or away from site for four or more days. As a result, we were able to significantly reduce the transmission of COVID-19 at our sites. The testing programme ceased in September 2022.



WELLBEING

Care for our people goes beyond ensuring a safe physical working environment.

The mental health, as well as physical and financial wellbeing of our people are key areas of focus in our company Wellbeing programme.

In March 2020, Pan Pac appointed a full time Wellbeing Advisor whose role is to ensure our people are supported and have access to resources that benefit their mental, physical, financial or career wellbeing. This includes healthcare onsite – free flu vaccinations and physio check-ups and subsidised melanoma skin checks – as well as seminars and sponsored events.

In addition, we have 10 staff who act as Peer Supporters for their teams and eight staff who are trained as Safety Aiders as part of the Mates4Life Hawke's Bay programme. Each has volunteered their time to receive training and guidance to help their colleagues.

PREVENTING INJURY

We are constantly working on safety measures to ensure our people can go home to their loved ones each day without injury.

Pan Pac is an integrated forestry company that operates 24/7.

Our work involves heavy machinery, weather and environmental hazards, remote locations and major manufacturing onsite. In addition, Pan Pac Whirinaki is classified as a Major Hazard Facility due to the chemicals we use to produce BCTMP (Bleached Chemical Thermo-Mechanical Pulp).

Some initiatives implemented in 2021 include:

VEHICLE AND DRIVER MONITORING

Our Forests team implemented a GPS monitoring system in staff work vehicles. The system tracks and records information about the vehicle and the driver including speed, cornering, braking and acceleration. This data is fed back to drivers and their managers to identify good behaviour and areas for improvement with a focus on self-assessment and improvement.

REMOTE OPERATIONS

Our Lumber team installed remote Vibration Analysis equipment in the Sawmill. This means that the Vibration Technician no longer has to interact with live equipment. Lumber also installed remote grease lines that reduce the amount of work performed at height and allow the plant to be greased at any time.

SEEN SENSORS

Following a successful trial within the Drymill, Seen Sensors were installed on forklifts within the Lumber business. Seen sensors detect reflective tape, transforming the standard hi-vis vest into an active pedestrian detection system for forklifts and other mobile equipment.

WORKING AT HEIGHT/HEIGHT ACCESS

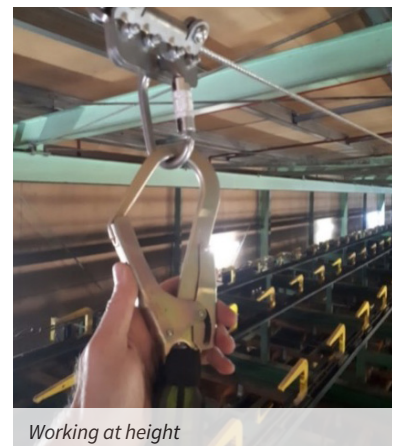
Our Lumber team identified several areas where safe access for frequently conducted activities was not possible. Solutions were installed using static lines and fall restraint systems (that prevent falls).



Remote operations



Seen sensors



Working at height



PLANET

FOCUS AREAS: ENVIRONMENTAL IMPACT & BIODIVERSITY, CLIMATE ACTION AND EMISSIONS

	SDGs	Progress
ENVIRONMENTAL IMPACT & BIODIVERSITY <i>Proactive reduction of climate and production impact</i>		
Implement an Environmental Management System to raise awareness among workers of Pan Pac's environmental, sustainability and cultural standards and expectations and provide tools to eliminate or mitigate environmental risk.	12	✓
Implement Supplier Code of Conduct to align our suppliers' and contractors' performance with our sustainability goals and targets.	12 17	✓
Enhance Pan Pac's forest resource by protecting and enhancing biodiversity within our native reserve areas and production forests. Ensure there are riparian zones around waterways in forests, and partner with iwi to achieve this where possible.	15	✓
Improve management of general waste and recycling onsite and within our forests. Routinely investigate the most appropriate waste water treatment process and discharge. Investigate waste diversion options (including vermicomposting) for boiler ash. Support community waste diversion projects through partnerships with local councils and the Waste Minimisation Fund (Ministry for the Environment).	6 12 14 15	✓
Implement site dust/particulate audit and improvement project. Continuous noise monitoring and monitoring of ocean discharge.	12	✓
Establishment of Independent Monitoring Review Group (IMRG). Application for Pipeline Protection Zone at Whirinaki.	14	✓
Reduce emissions generated by staff and contractors' vehicles. Since 2016, Pan Pac has supported the use of AdBlue in all our transport operations. AdBlue lowers nitrogen oxide emissions by up to 90%.	12 13	✓
CLIMATE ACTION AND EMISSIONS <i>Active carbon management</i>		
Actively monitor and manage GHG emissions and implement energy efficiency projects that reduce energy use and carbon intensity. Implement Toitū carbon accounting and development of a carbon inventory for Pan Pac (Whirinaki and Milburn). Implement Energy Transition Accelerator Study (ETA) to create a technical and economically viable long-term pathway of reducing carbon emissions. Member of Renewable Energy Users Group.	7 9	✓
Prepare a climate change risk assessment report that considers the potential impact of climate change on Pan Pac's operations. Conduct due diligence on TCFD reporting.	13	✓



ENVIRONMENTAL MANAGEMENT IN OUR FORESTS

We take our responsibility for the environment seriously.

More than 80% of the forests we utilise are iwi-owned. We respect and protect the native flora and fauna in these forests and all archaeological sites that we encounter during our work.

SURVEY 123

Since March 2020, our Forests team has used the Survey123 app to monitor environmental and health and safety performance.

Survey123 is a simple platform app developed by Esri that helps Pan Pac to gather, share and analyse field data.

We conduct environmental monitoring for:

- Indigenous forest areas
- Native fauna sightings
- Archaeological sites
- Operations (Harvesting, Engineering and Forestry)
- Water control infrastructure.

We are proud of our excellent compliance record. We have invested in our systems and our team to ensure we meet the requirements of National Environmental Standards, requirements of local councils and Forest Stewardship Council® (FSC® C017103) requirements.

NATIVE RESERVES AND WATER QUALITY MANAGEMENT

We are working in partnership with industry experts and regulators to ensure our native reserve areas and freshwater resources are managed appropriately. Our goal is to ensure that our operations do not impact these natural resources and, where possible, we will support enhancement of the environment.

RESPONSIBLE FORESTRY

Pan Pac's forests achieved Forest Stewardship Council®(FSC C017103) Certification in December 2001.

FSC® accredited certification is the mark of responsible forestry, which means that forests are well managed according to strict environmental, social and economic standards. When you buy products with an FSC® label, you are supporting the growth of responsible forest management worldwide. Independent third parties assess our compliance with good forestry practices.

Pan Pac Pulp and Lumber mills hold FSC® Chain-of-Custody certification (FSC-C006931 and FSC-C106229) providing a guarantee that the sourcing of fibre and the manufacturing of FSC® products through to shipment is in accordance with FSC® criteria.

Our pulp and lumber are FSC® Mix Credit certified, with input fibre and logs sourced from our own sustainably managed FSC® certified forests and other well-managed FSC® certified or controlled wood risk assessed forests in the surrounding region. All the logs and fibre processed are of New Zealand origin.

FSC® Mix Credit indicates that our products contain wood from FSC® certified forests and other controlled sources that meet the FSC® criteria and standard FSC-STD-40-005.

Controlled Sources means that we have ensured our logs are:

1. Not from GM trees
2. Not from high value conservation areas
3. From forests where traditional or civil rights are not violated
4. Legally obtained
5. Not from forests that have been converted to plantation.



USING WATER SUSTAINABLY: WASTEWATER TREATMENT PLANT

We do our utmost to ensure that the water we take is fully utilised and disposed of in an environmentally friendly way.

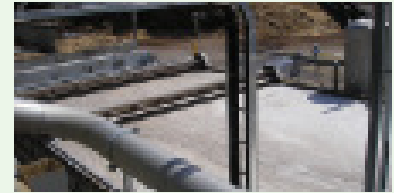
In 2012, Pan Pac invested \$20m to install a state-of-the-art Wastewater Treatment Plant (WWTP) that biologically treats wastewater produced in our Pulpmill.

The water that we take from the Esk River is utilised in many ways, including in the Pulpmill where it is utilised up to seven times prior to treatment.

Our WWTP is a dynamic system. It operates well with stable inputs from the pulping process. These include flow, organic load and temperature. If there is too much variability, wastewater may not be treated to the desired standard. Since operation began, our WWTP has been constantly improved to provide stable operation and maximum treatment benefits. This includes:

- Additional cooling of the incoming wastewater by the installation of two large cooling towers. This promotes a stable process for healthy bacterial growth.
- ASbasin membrane replacement to a tubular membrane lift out system providing improved mixing and oxygen delivery.
- MBBR membrane replacements and media replacement and volume increase (what the microorganisms live on).
- Automation projects to improve the operability of the plant (i.e., additional instrumentation and control systems).

THE THREE STAGES OF OUR BIOLOGICAL TREATMENT PROCESS



1. DISSOLVED AIR FLOTATION

We use air to froth the water and then skim the surface foam which holds natural oils and wood fibres. This material is collected and burned with the clarified microorganisms in our two boilers that provide steam for other processes.



2. BIOLOGICAL CONSUMPTION

We then use naturally occurring microorganisms to consume wood resins and nutrients in the water. This interaction often causes water discolouration due to natural pigments.



3. WATER CLARIFICATION

The biologically treated water is processed through a clarifier that allows the microorganisms to be separated for fuel in the boilers. The remaining water is discharged via the sea pipeline.



PROSPERITY

FOCUS AREAS: CONTINUOUS IMPROVEMENT, INNOVATION AND TECHNOLOGY

	SDGs	Progress
CONTINUOUS IMPROVEMENT <i>A focused, agile, high performing business</i>		
Implement an operational excellence project to increase the pulp production rate to 860 tonnes/day while maintaining acceptable product quality.	8 9	✓
INNOVATION AND TECHNOLOGY <i>Technology bias to increase quality, speed, reliability, margin and preferred provider status</i>		
Implement a best practice and world class ERP technology across Pan Pac.	8 9	✓
Participation in Forest Growers Research Programme (pruning, thinning, planting). Pan Pac, alongside the New Zealand Government, industry research funds and other industries, is investing in advancing technological developments. Pan Pac is taking a leadership approach for the prosperity of the forestry sector, as well as to ensure we continue to gain access to the pruned logs we need for the future.	8 9	✓
Implement Sawmill log infeed project – a \$13m investment at our Whirinaki site to improve safety and allow sawmill accuracy and efficiency through a robust future-proof solution that allows continuous improvement.	8 9	✓
Land acquisition for afforestation to ensure security of future wood flow, which results in an improved economic benefit to the community. Forestry provides significantly more value-add on a per hectare basis than sheep or beef farming (PWC, Economic impact of Forestry in New Zealand, 2020). In addition, there is a significant carbon sequestration benefit supporting the Paris Accords' 2030 and 2050 targets.	8	✓
Sponsorship of the Pan Pac Hawke's Bay Business Awards that recognise excellence among small to medium sized businesses and organisations within the region, and provides access to expert advice on business management.	8	✓



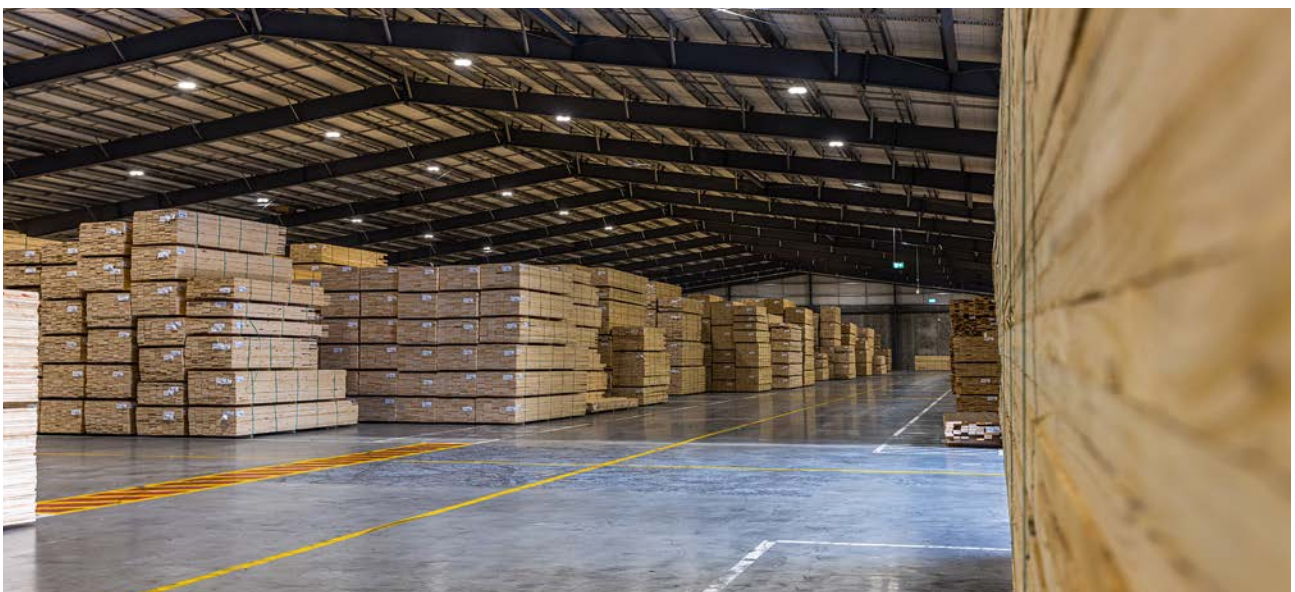
IMPROVING SAFETY AND EFFICIENCIES

Pan Pac exports a significant amount of lumber and pulp, with our products accounting for around one-third of Napier Port's volume.

We also provide lumber to domestic customers. Storing this lumber safely after it has been kiln-dried requires large indoor warehousing space. The product needs to be stacked in a way that is safe for storage and retrieval. The shipping and logistical challenges resulting from COVID-19-impacted supply chains mean that we may also need to store product longer before it can be exported.

To meet this need, we invested \$11m in the construction of an onsite lumber warehouse in November 2021.

The warehouse is the size of two rugby fields and can store up to 14,000m³ of kiln-dried lumber. Previously, this product was stored across six off-site warehouses. The new warehouse greatly reduces double handling and transportation, while enabling our product to be stored in a safe and secure way.





PARTNERSHIPS

FOCUS AREAS: PARTNERING WITH COMMUNITY AND BUSINESS TO SUPPORT SUSTAINABLE OUTCOMES

	SDGs	Progress
<i>Meet or better societal and environmental requirements set by Oji, New Zealand Government and ourselves</i>		
Support the establishment of a native nursery with Te Huka Waiohinga (Esk) River Care Group and Maungaharuru-Tangitū Trust by providing funding support, land, water and a native seed source.	14 15 17	✓
Trial with Waste Minimisation Fund for burning treated timber from the community in Pan Pac boilers. Aim to divert approx. 15,000 tonnes of waste material from municipal landfill each year.	15 17	↑
Establish Pākuratahi Bush QEII Covenant project in partnership with Maungaharuru-Tangitū Trust, Hawke's Bay Regional Council and QEII.	15 17	✓
Actively work with iwi partners to align our environmental management practices with cultural values including the concept of kaitiakitanga. Increasingly involve iwi in a wide range of forest and environmental management work.	15 17	✓
Increased sponsorship amount and length of term for ECOED kiwi creche.	15	✓
Joint partnership long-term lease agreement of the Mohaka Forest with Ngāti Pāhauwera that will enable Pan Pac to replant for a further 30 years and harvest those trees over the following 30 years. (Mohaka Forest is approx. 12,610ha and represents 34% of Pan Pac's forest estate).	8 17	✓



**PAN PAC
ENVIRONMENTAL
TRUST**

SUPPORTING ENVIRONMENTAL AND CULTURAL PROJECTS

Pan Pac contributes up to \$100,000 per annum towards projects that benefit the environment and culture in Hawke's Bay through the Pan Pac Environmental Trust.

Established in 2019, the Pan Pac Environmental Trust adds to Pan Pac's existing community support and sponsorship initiatives in the region. We welcome applications from all community groups with projects that meet our criteria and look forward to expanding our impact in the region.

For more information, visit ppet.org.nz.

WINNING PROJECTS

2020

- Maungaharuru-Tangitū Charitable Trust for Project Whakatipu Kaitiaki (Raising Future Kaitiaki), delivered by the Ātea a Rangi Educational Trust (pictured above).
- Ōtātara Outdoor Learning Centre workshops.
- Kākābeak/Ngutukākā propagation.
- Te Wai Mauri Trust.

2021

- Forest Lifeforce Restoration Trust.
- Te Huka Waiohinganga (Esk) River Care Group and Maungaharuru-Tangitū Trust native plant nursery.
- Project Whakatipu Kaitiaki (Raising Future Kaitiaki).
- Kākābeak/Ngutukākā propagation.

2022

- Te Wai Mauri Limited Ahika nursery.
- Environmental Conservation & Outdoor Education Trust (ECOED) pet and predator control to protect kiwi.
- Te Huka Waiohinganga (Esk) River Care Group and Maungaharuru-Tangitū Trust native plant nursery.
- Project Whakatipu Kaitiaki (Raising Future Kaitiaki).
- Kākābeak/Ngutukākā propagation.



PROTECTING RESOURCES: TE HUKA WAIOHINGANGA (ESK) RIVER PLANTING AND NURSERY

As well as ensuring we take and use water sustainably, we are mindful of the need to improve water quality and the overall environment for the benefit of our community.

Our Whirinaki site is located near the Esk River, from which we use water for our operations. We have partnered with Te Huka Waiohinganga (Esk) River Care Group to provide plants and other support to regenerate the area.

Around 4,500 native trees and plants have been planted along Te Huka Waiohinganga (Esk) River during planting days held in June 2021 and 2022, in an effort to recreate missing ecosystems and improve water quality in the catchment.

The plants have been supplied by Pan Pac with planting organised and undertaken by the Te Huka Waiohinganga (Esk) River Care Group and Pan Pac volunteers.

Pan Pac also provided wood mulch (from our boiler fuel pile) and organised the cartage of MyNoke vermicast (organic waste that has been converted into compost by worms).

The Pan Pac Environmental Trust has also contributed to the establishment of a community nursery, run by Te Huka Waiohinganga (Esk) River Care Group and Maungaharuru-Tangitū Trust. The nursery will produce up to 10,000 plants a year for future regeneration projects in the area.

We hope to make planting days in the Esk Catchment an annual event, to support our community and to acknowledge the importance of the Esk River for the long-term sustainability of our business.



PRESERVING FOR THE FUTURE: PĀKURATAHI BUSH

Pan Pac's first QEII covenanted native forest.

In 2019, Pan Pac purchased the Fisher forest land (total area 298ha), located just north of our Whirinaki mill.

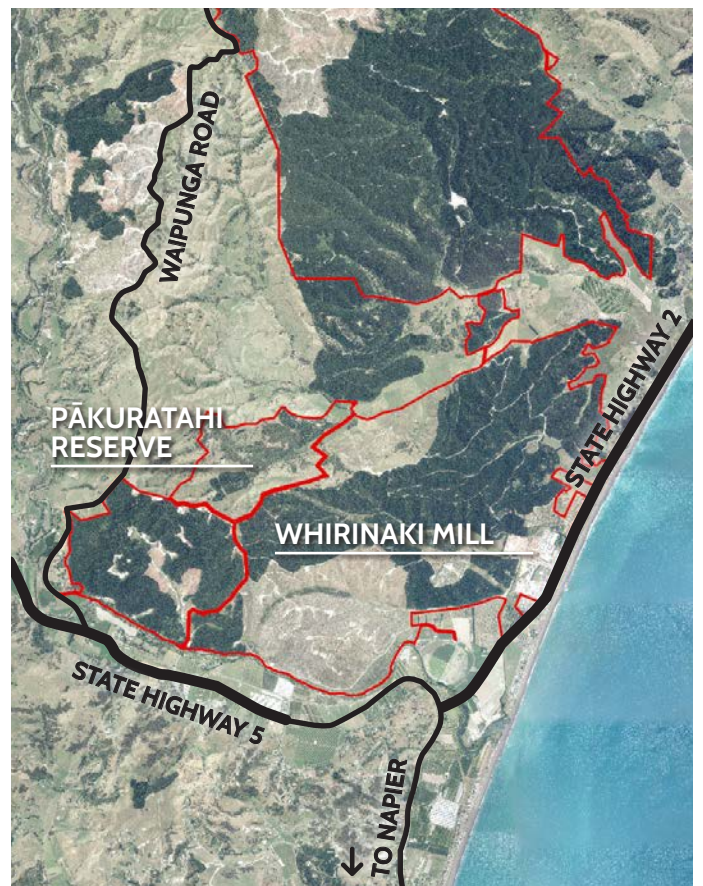
This forest land includes approx 68ha of well-established indigenous (native) forest. We partnered with government organisations to place the reserve into a secure Queen Elizabeth II National Trust (QEII) covenant, under the name Pākuratahi Bush.

While Pan Pac will maintain ownership of the land, the QEII covenant ensures Pākuratahi Bush is preserved for future generations. Pākuratahi Bush is unique for Hawke's Bay given the regionally significant tītoki ngaio forest type and previous protection from animal livestock and pests. For these reasons, the native tree population mixes of kahikatea, mataī, tītoki, karaka and kānuka hold particular ecological and local cultural importance.

Although there is no public access to Pākuratahi Bush, we will be working with specialists to harvest rare seeds to assist in local and national programmes of native forest regeneration. We also hope to welcome schools to the area for educational visits.

In June 2021, Pan Pac received funding approval through the Government's Jobs for Nature Fund to fence Pākuratahi Bush and plant an additional 12ha of native plants on bare land areas to speed up restoration.

Kaumātua from Maungaharuru Tangitū Trust are also supporting the development of a storyboard detailing the history of the Pākuratahi area.





FOCUS FOR THE FUTURE

Projects and initiatives that are planned for 2023 - 2030.

FOCUS AREAS: PEOPLE, PLANET, PROSPERITY AND PARTNERSHIPS

	SDGs	Progress
PEOPLE		
Increase focus on injury prevention, using proactive measures to prevent injuries and apply controls that are effective and pragmatic.	3	→
Build organisational capability through implementing an Organisational Health Index annual reporting system.	8	↑
PLANET		
Implement Primary Refiners Heat Recovery Project. The permanent removal of secondary refiners should provide an 11% saving in Pulpmill electricity consumption. We have already achieved close to half of this saving through a secondary refiner bypass trial, in which part of the pulp flow is bypassed. We are continuing to add additional bypass chutes until we achieve full pulp flow bypass.	7 12	✓
Target a 90% reduction in natural gas consumption in the pulp dryers by substituting this heat source with recovered primary refiner steam.	7 12	↑
Investigate the opportunity for our Milburn, Otago operation to support possible coal conversions to biomass through supply and expertise.	7 12 13	↑
WWTP Technology review – investigate alternatives for wastewater disposal.	12 14	↑
Study changing technologies for cartage and log truck fleets with a view to transitioning to a reduced fossil fuel fleet.	12 13	↑
Maximise onsite energy generation through ongoing investigations into alternative renewable options for electrical supply.	9 12	→
PROSPERITY		
Increase growth in volume and value of Lumber. The new log infeed installation will allow Lumber to improve value through the adoption of technologies such as advance log scanning and improving throughput.	9	✓
\$15m capital invested annually to ensure our operations are safe, environmentally aligned, reliable and technologically optimised (this amount is additional to larger strategic investments).	9 12	→
Commence engineering studies to identify the Pulpmill upgrade work required to increase our annual production from 270,000 ADT to 340,000 ADT. (This project is being fast-tracked due to the growing demand for our BCTMP pulp).	8	↑
PARTNERSHIPS		
Build on work with our iwi partners to align our environmental management practices with cultural values.	17	→
Work with regional organisations to support our combined sustainability goals.	17	✓

KEY: ↑ In Planning ✓ Underway → Ongoing



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